Landsat 7 to International Ground Station ICD
Revision B — February 1998

SECTION FIGURE TABLE	CHANGES SINCE REVISION A (SEPTEMBER 1997)
3.2	DATA TRANSFER MESSAGES • added: FORMATS Product Report Product Delivery Record (PDR) PDR Discrepancy Production Acceptance Notification (PAN)
3.2.3	SERVICE REQUEST • added validation of Service Request • added capability to stack up to 10 swath requests in one message
3.6	FILE NAMING CONVENTIONS • clarified version number description for Calibration Parameter File • added FORMATS Product Report • expanded DAAC transfer management file name descriptions
3.7	COMMUNICATIONS ARCHITECTURE • reorganized into subsections for each type of communications • moved details of MOC electronic transfer to Appendix G • added: send new PDR to DAAC using facsimile transmission when there's a problem with the PDR on the tape
Tab. 3-1	FILE TYPES AND NAMES • added FORMATS Product Report • expanded DAAC transfer management file name descriptions
Tab. 3-2	POTENTIAL IGS SITE DESIGNATIONS • updated MOC interface column to indicate stations with third-party interface to the MOC • deleted "X-Band Receive Site?" column since it was redundant as only X-band receive sites are listed in the table
Fig 3-2,G-1 Fig 3-3,F-1 Fig 3-4,F-6	MOC COMMUNICATIONS ARCHITECTURE AND MESSAGE FLOW DAAC COMMUNICATIONS ARCHITECTURE AND DATA FLOW FOR ELECTRONIC TRANSFER DAAC ARCHITECTURE AND DATA FLOW FOR PHYSICAL MEDIA TRANSFER • clarified description of steps
A.1 Fig. A-1	GLOSSARY OF TERMS • clarified browse data definition • clarified partial scene definition • added scene corner definitions and Figure A-1 to illustrate the definitions
B.3	SERVICE REQUEST MESSAGE • added capability to stack up to 10 swath requests in one message • clarified application of max solar zenith angle during scheduler processing
B.4	CONTACT SCHEDULE MESSAGE • corrected typo in SCHEDULED EVENT line of the example message • updated time of AOS relative to first data block (from 5 to 6) • updated time of LOS relative to last data block (from 5 to 1)

B.5	STATION DESCRIPTION MESSAGE • clarified E-MAIL ADDRESS keyword • clarified description of CONTACT PERSON
B.8	IMPROVED INTER-RANGE VECTOR MESSAGE • updated format of MESSAGE ID field: is now incremented in units of 100, starting with 0000100
B.9	NORAD TWO LINE ELEMENT MESSAGE • updated NORAD message description to reflect NORAD as the place of file generation, instead of GSFC, and the expected update rate by NORAD
Fig. C-2	X-BAND DOWNLINK MODULATION FUNCTIONAL CONFIGURATION • corrected boxes labeled "QPSK Modulator" to read "BPSK Modulator"
C.3	RF SIGNAL CHARACTERISTICS • corrected typo to 30.4 dB/K (was 300.4 dB/K)
Fig. C-5 Fig. C-6 Fig. C-7	ACTUAL RADIATION PATTERN FOR GIMBALLED X-BAND ANTENNA AT LOW FREQUENCY ACTUAL RADIATION PATTERN FOR GIMBALLED X-BAND ANTENNA AT MID FREQUENCY ACTUAL RADIATION PATTERN FOR GIMBALLED X-BAND ANTENNA AT HIGH FREQUENCY • new figures
D.1	OBJECT DESCRIPTION LANGUAGE (ODL) • added SCENE_QUALITY parameter to list of parameters for which leading zeros are recommended
D.2	METADATA FORMAT • clarified option to include format 1 only parameters in format 2 • clarified inclusion of LPS processing methodology in Table D-1
D.3	ALGORITHM FOR CALCULATION OF SCENE QUALITY • finalized the algorithm (was proposed) • moved text and tables to en of section, after Table D-1 and Figure D-2
Tab. D-1	IGS METADATA FORMAT SPECIFICATION • removed the confusing references to ODL levels in the description of GROUP and END_GROUP parameters • put LPS methodology references in smaller font size • added SUBINTERVAL_START_TIME and SUBINTERVAL_STOP_TIME as required parameters in both format 1 and 2 • added reference to Glossary (section A.1) in subinterval and scene corner point parameter descriptions • made subinterval corner point parameters required - were optional before • corrected and clarified the description of the fractional seconds field in the SCENE_CENTER_SCAN_TIME parameter • updated SCENE_QUALITY value range to 00-99 when quality is assessed, and -1 when no quality assessment is made (was -99)

Fig. D-2	EXAMPLE OF IGS METADATA FORMAT • added SUBINTERVAL_START_TIME and SUBINTERVAL_STOP_TIME • corrected station used in the example from LGS to EDC • deleted misleading comment preceding SCENE_QUALITY entry • changed format 2 SCENE_QUALITY score value to -1
D.3.1	IMAGE QUALITY COMPONENT • clarified that 6313 is the nominal number of image data minor frames in a scan (was major frame) for 30 meter bands - rationale: both are correct, but later paragraphs refer to scan but not to major frame
Tab. D-2 Tab. D-3	IMAGE QUALITY SCORING RULES PCD QUALITY SCORING RULES • added lower limit to each entry in the tables; for example: ^{2}16 but > 4 equivalent bad scans, scattered
D.3.3	SCENE QUALITY • changed the value when no assessment is made, from -99 to -1 • corrected scoring example given in the text
Tab. E-1	BROWSE IMAGE CHARACTERISTICS • added a note to the "Browse file format" entry (whose value is HDF) indicating that Unix-based tools for converting JFIF to HDF and JPEG to HDF will be made available to the IGSs
E.2	BROWSE PRODUCT FORMAT • corrected description of browse image stored in HDF
E.3	LPS BROWSE GENERATION PROCESS • reworked and clarified the description of the LPS browse product
Tab. E-2	LPS BROWSE IMAGE HDF FILE STRUCTURE • replaced the list of inputs for building the RIS24 browse image with a depiction of the LPS browse image HDF file structure; and renamed the table
F.1	ELECTRONIC TRANSFER • clarified description of error handling
F.1.1	PRODUCT DELIVERY RECORD FILE • clarified file naming convention and file structure description
Tab. F-1	PRODUCT DELIVERY RECORD (PDR) FILE FORMAT • updated DATA_TYPE from L7L0RIGS to L7IGS • corrected values in SIZE column (but missed one: FILE_TYPE = 9, not 8) • clarified file structure when 2 metadata files are being reported
Fig. F-3 Fig. F-4	EXAMPLE OF PRODUCT DELIVERY RECORD (PDR) FILE EXAMPLE OF SHORT AND LONG PRODUCT DELIVERY RECORD (PDR) DISCREPANCY FILES • updated DATA_TYPE from L7L0RIGS to L7IGS
F.1.2 F.1.3	PRODUCT DELIVERY RECORD DISCREPANCY FILE PRODUCTION ACCEPTANCE NOTIFICATION FILE • clarified file naming convention

Tab. F-2 Tab. F-3	SHORT PRODUCT DELIVERY RECORD DISCREPANCY FILE FORMAT LONG PRODUCT DELIVERY RECORD DISCREPANCY FILE FORMAT • corrected values in SIZE column • updated DATA_TYPE from L7L0RIGS to L7IGS • removed "SUCCESSFUL" as valid disposition in LONGPDRD file
Tab. F-4 Tab. F-5	SHORT PRODUCTION ACCEPTANCE NOTIFICATION (PAN) FILE FORMAT LONG PRODUCTION ACCEPTANCE NOTIFICATION (PAN) FILE FORMAT • corrected values in SIZE column • clarified description of TIME_STAMP parameter
F.1.4	ELECTRONIC TRANSFER ERROR HANDLING AND BACKUP METHODS • clarified error handling description
F.2	PHYSICAL MEDIA TRANSFER • clarified description of error handling in physical media transfer • replaced references to "media" with references to "tape", since all media options are tape-based
F.2.1	PHYSICAL MEDIA PDR FILE • clarified file naming convention and tape/file structure • updated file extension from PDR to PMPDR
Tab. F-6	PHYSICAL MEDIA PRODUCT DELIVERY RECORD FILE FORMAT • corrected values in SIZE column • updated DATA_TYPE from L7L0RIGS to L7IGS • clarified file structure for multiple FILE_SPECs and FILE_GROUPs • corrected parameter referenced in FILE_TYPE description from FILE_NAME to FILE_ID
Fig. F-7	EXAMPLE OF PHYSICAL MEDIA PRODUCT DELIVERY RECORD (PDR) FILE • updated DATA_TYPE from L7L0RIGS to L7IGS • added explanatory note
F.2.2	PHYSICAL MEDIA PDR DISCREPANCY FILE • clarified file naming convention • update file extension from PDRD to PMPDRD
Tab. F-7 Tab. F-8	SHORT PHYSICAL MEDIA PDR DISCREPANCY FILE FORMAT LONG PHYSICAL MEDIA PDR DISCREPANCY FILE FORMAT • updated MESSAGE_TYPE from SHORTPDRD and LONGPDRD to SHORTPMPDRD and LONGPMPDRD • corrected values in SIZE column • clarified structure of LONG form of file when multiple FILE_GROUPs are involved
Fig. F-8	EXAMPLE OF SHORT AND LONG PHYSICAL MEDIA PDR DISCREPANCY FILES • updated DATA_TYPE from L7L0RIGS to L7IGS • updated MESSAGE_TYPE to SHORTPMPDRD and LONGPMPDRD
F.2.3	PHYSICAL MEDIA PAN FILE • clarified file naming convention • updated file extension from PAN to PMPAN

Tab. F-9	SHORT PHYSICAL MEDIA PAN FILE FORMAT • updated MESSAGE_TYPE from SHORTPAN to SHORTPMPAN • corrected values in SIZE column • corrected description of DISPOSITION field • clarified description of TIME_STAMP
Tab. F-10	LONG PHYSICAL MEDIA PAN FILE FORMAT • updated MESSAGE_TYPE from LONGPAN to LONGPMPAN • corrected values in SIZE column • corrected values for FILE_NAME • clarified description of TIME_STAMP
Fig. F-9	EXAMPLE OF SHORT AND LONG PHYSICAL MEDIA PAN FILES • updated MESSAGE_TYPE to SHORTPMPAN and LONGPMPAN
F.2.4	PHYSICAL MEDIA TRANSFER ERROR HANDLING • corrected references from ECS to DAAC
Appendix G	FILE EXCHANGE WITH THE MOC • new section, based on details that were previously in section 3.7 • also includes new information on validation of service request messages • added FORMATS Product Report example with errors being reported (please note that the error being reported is not one that the IGS would normally see - this report example will be updated in the next version with a more realistic error message)